

REMARKS

I. Introduction

Claims 17 to 33 and 35 to 37 are pending in the present application. In view of the foregoing amendments and the following remarks, it is respectfully submitted that the present application is in condition for immediate allowance, and reconsideration is respectfully requested.

II. Double Patenting

Regarding the provisional double patenting rejection, while this provisional rejection is not agreed with, to facilitate matters, Applicants are prepared to file a Terminal Disclaimer upon withdrawal of all other rejections and an indication that the present application is otherwise in condition for immediate allowance.

III. Objection to the Drawings

Regarding the objection to the drawings, while 37 C.F.R. § 1.83(a) requires the drawings to show every feature specified in the claims, it also provides that “conventional features disclosed in the description and claims, where their detailed illustration is not essential for a proper understanding of the invention, **should be**” -- but are **not required to be** -- “illustrated in the drawing in the form of a graphical drawing symbol or a labeled representation.” The feature of a circuit that activates a predefined search routine need not be illustrated since a detailed illustration thereof is not essential for a proper understanding of the claimed subject matter. The Examiner’s attention is also respectfully directed to 35 U.S.C. § 113, which states that “[t]he applicant shall furnish a drawing **where necessary for the understanding of the subject matter sought to be patented**” (emphasis added). Since a person of ordinary skill in the art would properly understand the feature of a circuit that activates a predefined search routine based on the description and the claims, no further illustration is required.

IV. Rejection of Claims 17 to 25, 35 and 36 Under 35 U.S.C. § 112, 1st Paragraph

Claims 17 to 25, 35 and 36 were rejected under 35 U.S.C. § 112, first paragraph, as allegedly failing to comply with the enablement requirement. It is

respectfully submitted that the present rejection should be withdrawn for at least the following reasons.

The Office Action's conclusory assertions at pages 4 to 5 do not constitute a proper enablement analysis. It is respectfully submitted that the Office Action's assertions and arguments presented do not reflect the standard for determining whether a patent application complies with the enablement requirement that the specification describe how to make and use the invention -- which is defined by the claims. (See M.P.E.P. § 2164). The Supreme Court established the appropriate standard as whether any experimentation for practicing the invention was undue or unreasonable. (See M.P.E.P. § 2164.01 (citing Mineral Separation v. Hyde, 242 U.S. 261, 270 (1916); In re Wands, 858 F.2d 731, 737, 8 U.S.P.Q.2d 1400, 1404 (Fed Cir. 1988))). Thus, it is axiomatic that the enablement test is "whether one reasonably skilled in the art could make or use the invention from the disclosures in the patent coupled with information known in the art without undue experimentation." (See id. (citing United States v. Teletronics, Inc., 857 F.2d 778, 785, 8 U.S.P.Q.2d 1217, 1223 (Fed. Cir. 1988))).

The Federal Circuit has made clear that there are many factors to be considered in determining whether a specification satisfies the enablement requirement, and that these factors include but are not limited to the following: the breadth of the claims; the nature of the invention; the state of the prior art; the level of ordinary skill; the level of predictability in the art; the amount of direction provided by the inventor; the existence of working examples; and the quantity of experimentation needed to make or use the invention based on the disclosure. (See id. (citing In re Wands, 858 F.2d at 737, 8 U.S.P.Q.2d at 1404 and 1407)). In this regard, the Federal Circuit has also stated that it is "improper to conclude that a disclosure is not enabling based on an analysis of only one of the above factors," and that the examiner's analysis must therefore "consider all the evidence related to each of these factors" so that any nonenablement conclusion "must be based on the evidence as a whole." (See M.P.E.P. § 2164.01).

Also, an examiner bears the initial burden of establishing why the "scope of protection provided by a claim is not adequately enabled by the disclosure." (See id. (citing In re Wright, 999 F.2d 1557, 1562, 27 U.S.P.Q.2d 1510, 1513 (Fed. Cir. 1993))). Accordingly, a specification that teaches the manner and process of making and using an invention in terms that correspond in scope to those

used in describing and defining the claimed subject matter complies with the enablement requirement. (See id.).

In contrast to the above, however, it is respectfully submitted that the Office Action's unsupported assertions simply do not concern — as they must under the law — whether the present application enables a person having ordinary skill in the art to practice the claimed subject matter of the claims without undue experimentation — which it plainly does, as would be understood by a person having ordinary skill in the art in view of the disclosure of the present application, including the specification. In short, the Office Action's assertions are merely conclusory and do not address the issue of whether one having ordinary skill would have to unduly experiment to practice the claimed subject matter of the rejected claims — *a proposition for which the Office bears the burden of proving a prima facie case as to the rejected claims.*

In this regard, to properly establish enablement or non-enablement, the Office must make use of proper evidence, sound scientific reasoning and the established law. In the case of Ex Parte Reese, 40 U.S.P.Q.2d 1221 (Bd. Pat. App. & Int. 1996), a patent examiner rejected (under the first paragraph of section 112) application claims because they were based on an assertedly non-enabling disclosure, and was promptly reversed because the rejection was based only on the examiner's subjective belief that the specification was not enabling as to the claims. In particular, the examiner's subjective belief was simply not supported by any “evidence or sound scientific reasoning” and therefore ignored recent case law — which makes plain that an examiner (and not an applicant) bears the burden of persuasion on an enablement rejection.

More particularly, the examiner in Ex parte Reese was reversed because the rejection had only been based on a conclusory statement that the specification did not contain a sufficiently explicit disclosure to enable a person to practice the claimed invention without exercising undue experimentation — which the Board found to be merely a conclusory statement that only reflected the subjective and unsupported beliefs of a particular examiner and that was not supported by any proper evidence, facts or scientific reasoning. (See id.). *Moreover, the Board made clear that it is “incumbent upon the Patent Office . . . to back up assertions of its own with acceptable evidence,” and also made clear that “[where an] examiner's 'Response to Argument' is not supported by evidence, facts*

or sound scientific reasoning, [then an] examiner has not established a prima facie case of lack of enablement under 35 U.S.C. § 112, first paragraph.” (See id. at 1222 & 1223).

In the present case, the Office Action has not established – even in a conclusory manner -- that undue experimentation would be required.

In addition, the feature of at least one sensor is optimized on the basis of information obtained from other sensors, and how it is optimized, is adequately disclosed, for example, on page 6, lines 13 to 26; page 8, line 22 to page 9, line 6; page 13, lines 5 to 21; and page 22, line 25 to page 23, line 3 of the Specification. For example, optimization occurs when specific search programs are “allocated to individual sensors that have specific advantages for the detection of such an object. When a specific programmed scenario is detected in the context of a measurement by one or more sensors, i.e. when one or more sensors give indications of, for example, a specific material, then all the sensors are set to that program, and the sensor driving and evaluation are optimized for the material that has now been recognized. More accurate results can thereby be supplied because it is possible to work, for example, with sensitivities for the individual sensors that are matched optimally to the identified object.” (see, specification, page 8, line 22 through page 9, line 6). The feature of determining the desirability of the signals for subsequent data processing is adequately disclosed on page 8, lines 1 to 21; and page 13, lines 22 to 28 of the Specification.

In view of the foregoing, it is respectfully submitted that claims 17 to 25, 35 and 36 are sufficiently enabled. Accordingly, withdrawal of this rejection is respectfully requested.

V. Rejection of Claim 36 Under 35 U.S.C. § 112, 1st Paragraph

Claim 36 were rejected under 35 U.S.C. § 112, first paragraph, as allegedly failing to comply with the written description requirement. It is respectfully submitted that these claims sufficiently comply with the written description requirement for at least the following reasons.

As stated above, the feature of determining the desirability of the signals for subsequent data processing is originally disclosed on page 8, lines 1 to 21; and page 13, lines 22 to 28 of the Specification.

In view of the foregoing, it is respectfully submitted that claim 36 sufficiently complies with the written description requirement for at least the above reason. Accordingly, withdrawal of this rejection is respectfully requested

VI. Rejection of Claims 17 to 25, 35, and 36 Under 35 U.S.C. § 112, 2nd Paragraph

Claims 17 to 25, 35, and 36 were rejected under 35 U.S.C. § 112, second paragraph, as indefinite. It is respectfully submitted that these claims are sufficiently definite for at least the following reasons.

Regarding claim 17 and its dependent claims 18 to 25 and 35, and claim 36, claims 17 and 36 have been amended to clarify that the at least one *further* sensor is optimized on the basis of information obtained from the other sensors. Accordingly, it is respectfully submitted that the present rejection as to claims 17 to 25, 35, and 36, is moot, and withdrawal of this rejection is respectfully requested.

Accordingly, it is respectfully submitted that claims 17 to 25, 35, and 36 are sufficiently definite for at least the above reasons.

In view of all of the foregoing, withdrawal of this rejection is respectfully requested.

VII. Rejection of Claims 17 to 19 and 35 Under 35 U.S.C. § 102(b)

Claims 17 to 19 and 35 were rejected under 35 U.S.C. § 102(b) as anticipated by U.S. Patent No. 5,952,957 ("Szu"). It is respectfully submitted that the Szu does not anticipate these claims for at least the following reasons.

Claim 17 recites that the **at least one further sensor** is optimized on the basis of information obtained from the other sensors. By providing for a **sensor** that is optimized **on the basis of information obtained from the other sensors**, the device generates more accurate localization of the enclosed objects, since the **sensor** can generate signals which can be optimized, and adapted to the specific measurement situation, based on the measurement results of the other sensors. For example, as stated on page 6, lines 17 to 26,

a capacitive sensor recognizes a wooden single-panel wall by measuring the dielectric impedance. The radar sensor integrated into the device can then be operated so that air inclusions are measured, but are not displayed on the device's display. This can be achieved, for example, by the fact that the signal processing system downstream from the

radar sensor averages out the signals of the air inclusions using ordinary averaging methods. In this fashion the radar sensor can be operated in optimized fashion.

Szu does not disclose, or even suggest, that at least one **sensor** is optimized on the basis of information obtained from the other sensors. Szu describes a system for generating and displaying an image of a target object including an infrared unit (103), a radar unit (102), a processor (101), and a display device (104).

In the response to arguments section of the Office Action, the Examiner cites col. 2, lines 43 to 50 of Szu as allegedly disclosing the feature of at least one sensor being optimized on the basis of information obtained from the other sensors. In this regard, col. 2, lines 43 to 50 of Szu states:

The infrared unit comprises a focal plane array comprising pixels, each of the pixels includes a sensing area and a non-sensing area surrounding the sensing area, wherein the processor extrapolates the infrared signal from the sensing area toward the non-sensing area based on the radar signal. The processor adjusts the boundary between the infrared signal and the radar signal to provide a smooth transition between the sensing area and the non-sensing area.

Nowhere, in the aforementioned text, does it disclose or suggest, at least one **sensor** being **optimized** on the basis of information obtained from the other sensors. As such, it is respectfully submitted that Szu does not disclose, or even suggest, all of the features included in claim 17.

Consequently, it is respectfully submitted that Szu does not anticipate claim 17, or claims 18, 19, and 35, which depend from claim 17.

In view of all of the foregoing, withdrawal of this rejection is respectfully requested.

VIII. Rejection of Claims 17 to 19, 21, 24, 25, and 35 Under 35 U.S.C. § 102(e)

Claims 17 to 19, 21, 24, 25, and 35 were rejected under 35 U.S.C. § 102(e), as anticipated by U.S. Patent Application Publication No. 2003/0193429 ("Campana et al."). It is respectfully submitted that Campana et al. does not anticipate the present claims for at least the following reasons.

Campana et al. does not disclose, or even suggest, that the at least one **sensor** is further **optimized** on the basis of information obtained from the other sensors. Campana et al. describes a sensor array (30) containing a row of GPR sensors (70), EMI coils (80), and a row of DLIR detectors (140), whereby the sensors are connected to the processor based system (130) and are configured to look down at the ground (60) in order to detect buried objects.

In the response to arguments section of the Office Action, the Examiner cites paragraphs [0042] and [0043] of Campana et al. as allegedly disclosing the feature of at least one sensor being optimized on the basis of information obtained from the other sensors. However, Campana et al. merely refers to **combining** IR feature extractions with GPR and MD features in a multisensor fusion block (1080). It does not disclose or suggest a **sensor itself** being **optimized** on the basis of information obtained from the other sensors. As such, it is respectfully submitted that Campana et al. does not disclose, or even suggest, all of the features included in claim 17.

Consequently, it is respectfully submitted that Campana et al. does not anticipate claim 17, or claims 18, 19, 21, 24, 25, and 35, which depend from claim 17.

In view of all of the foregoing, withdrawal of this rejection is respectfully requested.

IX. Rejection of Claim 20 Under 35 U.S.C. § 102(e)

Claim 20 was rejected under 35 U.S.C. § 102(e) as anticipated by Campana et al. with alleged illustration of inherency provided by Radar Sensor for an Autonomous Antarctic Explorer, *Proc. SPIE , Mobile Robots XIII and Intelligent Transportation Systems*, volume 3525, pp. 117-124, January 1999 ("Foessel et al."). It is respectfully submitted that Campana et al. with alleged illustration of inherency provided by Foessel et al. does not anticipate claim 20 for at least the following reasons.

Claim 20 depends from claim 17 and therefore includes all of the features included in claim 17. As more fully set forth above, Campana et al. does not disclose, or even suggest, all of the features included in claim 17. Foessel et al. is not relied upon for disclosing or suggesting the features of claim 17 not disclosed or suggested by Campana et al. Indeed, it is respectfully submitted that Foessel et al. does not disclose, or even suggest, the features included in claim 17 not

disclosed or suggested by Campana et al. As such, it is respectfully submitted that Campana et al. with illustration of inherency provided by Foessel et al. does not anticipate claim 20, which depends from claim 17.

In view of all of the foregoing, withdrawal of this rejection is respectfully requested.

**X. Rejection of Claims 17, 18, 21 to 25,
35 and 36 Under 35 U.S.C. § 102(e)/103(a)**

Claims 17, 18, 21 to 25, 35 and 36 were rejected under 35 U.S.C. § 102(e), as anticipated by, or in the alternative, under 35 U.S.C. § 103(a) as obvious over U.S. Patent No. 7,034,677 ("Steinthal et al."). It is respectfully submitted that Steinthal et al. does not anticipate or render unpatentable the present claims for at least the following reasons.

Steinthal et al. does not disclose, or even suggest, at least one sensor is optimized on the basis of information obtained from the other sensors. Steinthal et al. describes sensor array detectors capable of producing a response in the presence of physical stimuli.

In the response to arguments section of the Office Action, the Examiner cites col. 9, lines 50 to 55; and col. 10, lines 19 to 24 and 40 to 45 of Steinthal et al. as allegedly disclosing the feature of at least one sensor being optimized on the basis of information obtained from the other sensors. In this regard, col. 9, lines 50 to 55 of Steinthal et al. states:

In certain aspects, the system is configured to periodically monitor all physical channels and determine if the sensor inputs are within the electrical operating range. If not, the system automatically biases each sensor accordingly and adjusts its baseline readings.

Nowhere, in the aforementioned text, does it disclose or suggest, at least one **sensor** being **optimized** on the basis of information obtained from other sensors.

Further, col. 10, lines 19 to 24 of Steinthal et al. states:

The baseline resistance of all sensors is calculated 315 . To account for slow changes in ambient conditions, such as humidity and temperature, and any sensor drift, the baseline resistance, R_0 , is constantly updated based on recent

history. There are at least two parameters—delay time and averaging time—that can be tuned.

Nowhere, in the aforementioned text, does it disclose or suggest, at least one **sensor** being **optimized** on the basis of information obtained from the other sensors. Steinthal et al. merely refers to **updating the baseline resistance** based on recent history. That is different than a **sensor itself** being **optimized** on the basis of information obtained from other sensors.

Furthermore, col. 10, lines 40 to 45 of Steinthal et al. states:

The responses for individual sensors are used for pattern recognition to identify an event, e.g., determine whether a disturbance is a nuisance or a fire.

The sensor-averaged response is calculated 330. In one aspect, the sensor-averaged response, $(\Delta R/R_0)_{avg}$, is calculated to provide a robust measurement of the presence or non-presence of a disturbance.

Nowhere, in the aforementioned text, does it disclose or suggest, at least one **sensor** being **optimized** on the basis of information obtained from other sensors. Steinthal et al. merely refers to calculating a **sensor-averaged response** to provide a measurement of the presence of a disturbance. That is different than a **sensor itself** being **optimized** on the basis of information obtained from the other sensors.

As such, it is respectfully submitted that Steinthal et al. does not disclose, or even suggest, all of the features included in claim 17. Consequently, it is respectfully submitted that Steinthal et al. does not anticipate, or render unpatentable, claims 18, 21 to 25, and 35, which depend from claim 17.

Claim 36 has been amended to recite that the at least one further measurement signal is optimized on the basis of information obtained from the other measurement signal. As mentioned above, nowhere does Steinthal et al. disclose, or even suggest, this feature. As such, it is respectfully submitted that Steinthal et al. does not disclose, or even suggest, all of the features included in claim 36. Consequently, it is respectfully submitted that Steinthal et al. does not anticipate, or render unpatentable, claim 36.

In view of all of the foregoing, withdrawal of this rejection is respectfully requested.

XI. Rejection of Claim 36 Under 35 U.S.C. § 102(b)/103(a)

Claim 36 was rejected under 35 U.S.C. § 102(b), as anticipated by, or in the alternative, under 35 U.S.C. § 103(a) as obvious over Szu. It is respectfully submitted that Szu does not anticipate or render unpatentable the present claim for at least the following reasons.

Claim 36 has been amended to recite that the at least one further measurement signal is optimized on the basis of information obtained from other measurement signal. As mentioned above, nowhere does Szu disclose, or even suggest, this feature. As such, it is respectfully submitted that Szu does not disclose, or even suggest, all of the features included in claim 36. Consequently, it is respectfully submitted that Szu does not anticipate, or render unpatentable, claim 36.

XII. Rejection of Claim 36 Under 35 U.S.C. § 102(e)/103(a)

Claim 36 was rejected under 35 U.S.C. § 102(e), as anticipated by, or in the alternative, under 35 U.S.C. § 103(a) as obvious over Campana et al. It is respectfully submitted that Campana et al. does not anticipate or render unpatentable the present claim for at least the following reasons.

Claim 36 has been amended to recite that the at least one further measurement signal is optimized on the basis of information obtained from the other measurement signal. As mentioned above, nowhere does Campana et al. disclose, or even suggest, this feature. As such, it is respectfully submitted that Campana et al. does not disclose, or even suggest, all of the features included in claim 36. Consequently, it is respectfully submitted that Campana et al. does not anticipate, or render unpatentable, claim 36.

XIII. Conclusion

It is therefore respectfully submitted that the presently pending claims are allowable. All issues raised by the Examiner having been addressed, an early and favorable action on the merits is earnestly solicited.

Respectfully submitted,

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